FIFTH BI-MONTHLY PROGRESS REPORT
UNIVERSITY OF ALASKA
ERTS PROJECT 110-12
May 31, 1973

A. TITLE OF INVESTIGATION:

Evaluation of feasibility of mapping seismically active faults in Alaska.

B. PRINCIPAL INVESTIGATOR/GSFC ID:

Larry Gedney/GSFC ID: UN 601

C. PROBLEMS IMPEDING INVESTIGATION:

None.

D. PROGRESS REPORT:

1. Accomplishments during reporting period:

During the past reporting period, prior findings of this study were consolidated into a consistent format and several scientific papers were produced. This involved the production of final versions of mosaics, together with overlays showing prominent lineaments, mapped faults, and earthquake epicenters. It is found that there is a striking correlation between earthquake epicenters and intersections of faults and lineaments visible on the ERTS imagery.

Imagery from some of the spring passes has been inspected and compared with that obtained during earlier passes last fall. While the quality of the imagery remains superb, it is evident that, for the purposes of defining lineaments and subtle textural differences, those passes made at very low sun angle during last November are superior to those made this spring.

A presentation comparing seismicity maps with lineaments visible on ERTS-1 imagery was made to the 68th annual meeting of the Seismological Society of America at Golden, Colorado in May. The data presented has previously appeared in the NASA Earth Resources Survey Program weekly abstracts.

2. Plans for next reporting period:

The emphasis of this investigation to date has centered around central interior Alaska, which comprises only the northern part of the study area. This is due primarily to the availability of more cloud-free data in the central part of the state. The southern part of the study area enjoys far fewer cloud-free or nearly cloud-free days. In going over some of our earlier data, however, we have found some imagery which might provide usable results, and we intend to spend more time on these. In addition, some of the spring passes provided coverage of some new areas in the central interior, and we intend to incorporate these into our present study.

E. SIGNIFICANT RESULTS:

None for this reporting period.

F. PUBLICATIONS:

a) In preparation:

Gedney, Larry and James VanWormer, Tectonic mapping in Alaska with ERTS-1 imagery, Photo Interpretation (described in interim scientific report dated 25 May 73).

b) In press:

Gedney, Larry and James VanWormer, Some aspects of regional tectonics in Alaska as seen in ERTS-1 imagery, ERTS-1 Symposium Proceedings, March, 1973.

Gedney, Larry and James VanWormer, Tectonic mapping in Alaska with ERTS-1 imagery, interim scientific report, NASA Contract NAS5-21833, 25 May 73.

c) Published:

Gedney, Larry, "Finding faults" with ERTS-1 imagery, The Northern Engineer, Vol. 5, No. 1, pp. 3-5, spring, 1973 (described in Symposium on Significant Results obtained from ERTS-1, abstracts, March 1973).

VanWormer, D., L. Gedney, J. Davies, and L. Shapiro, Central Alaska seismicity, 1972, Program with Abstracts, 68th Annual National Meeting of the Seismological Society of America, p. 49, 19 May 73 (described in Type II report #3 dated 20 Feb 73).

G. RECOMMENDATIONS:

None.

H. REVISED STANDING ORDER FORMS:

None.

I. ERTS IMAGE DESCRIPTOR FORMS:

See attached sheet.

J. DATA REQUESTS:

None.

ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

NDPF USE ONLY
D _____
N _____
ID _____

DATE May 31, 1973

PRINCIPAL INVESTIGATOR Larry Gedney

GSFC UN 601

ORGANIZATION Geophysical Institute, University of Alaska

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Fault	Mountain	River	
121120501M	x	x	x	
121120504M	x	x	x	
125221191M	x	x	x	
126220340M	x	x	x	
126320392M	x	x	x	
126320394M	x	x	x	
126420444M	x	x	x	

*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

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